

WHAT IS CLAIMED IS:

1. An SLM (spatial light modulator) -based
projection display system, comprising:

an articulating unit having at least the optical
path components of the display system and the SLM, the
optical components comprising at least an illumination
system and a projection lens, the rotating unit moveable
from a stow position to an operating position, such when
the rotating unit is moved to the operating position, the
image formed by the SLM is re-oriented to a position
suitable for viewing;

a platform unit operable to rest on a flat surface
when the projection display system is in use,

at least one mechanism for attaching the rotating
unit to the platform unit, such that the rotating unit
and the platform unit may form an angle relative to each
other when the rotating unit is deployed and may lie in
parallel planes in the stow position; and

a locking mechanism for holding the rotating unit in
place when the rotating unit is in the operating
position.

2. The system of Claim 1, wherein the articulating
unit contains all operating components of the display
system.

3. The system of Claim 1, wherein the platform unit
contains at least a power supply.

4. The system of Claim 1, wherein the locking mechanism is a self locking mechanism associated with the mechanism.

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5. The system of Claim 1, wherein the optical path components further comprise telecentric prism optics.

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6. The system of Claim 1, wherein the articulating unit further contains a power supply.

7. The system of Claim 1, wherein the system is housed in a housing no more than two inches in height.

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8. The system of Claim 1, wherein the system is housed in a housing less than ten inches on each side.

9. The system of Claim 1, wherein the SLM is a digital micro mirror device (DMD).

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10. The system of Claim 1, wherein the SLM is a reflective liquid crystal display (LCD) array.

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11. The system of Claim 1, wherein the angle of the rotating unit is determined at least in part by the illumination requirements of the SLM.

12. The system of Claim 1, wherein the angle of the rotating unit is determined at least in part by a tilt position of the SLM.

13. An SLM (spatial light modulator) -based
5 projection display system, comprising:

a repositionable optical unit containing at least the SLM, projection optics, and a projection lens, the optical unit moveable from a stow position to an
10 operating position at an angle relative to the stow position, the operating position being such that the image formed by the SLM is re-oriented to a position suitable for viewing; and

a platform unit operable to rest on a flat surface when the projection display system is in use, the
15 platform unit containing all other operating components of the display system, comprising at least an illumination source, a power supply, and a color wheel.

14. The system of Claim 13, wherein the optical
20 unit is both translated and rotated from the stow position to the operating position.

15. The system of Claim 13, wherein the optical
25 unit is translated at an angle from the stow position to the operating position.

5 17. The system of Claim 13, wherein the system is
housed in a housing no more than two inches in height.

18. The system of Claim 13, wherein the system is housed in a housing no more than ten inches on each side.

19. An SLM (spatial light modulator) -based
projection display system, comprising:

5 a platform unit operable to rest on a flat surface
when the projection display system is in use, the
platform unit containing all operating components of the
display system, namely, at least the SLM, a power supply,
an illumination source, and electronics associated with
the SLM; and

10 a fold mirror in the optical path between the
illumination source and the SLM, the fold mirror operable
to pop out from the platform unit when the display system
is in use, such that the fold mirror redirects light from
the illumination source to an optical path leading to the
SLM.

15 20. The system of Claim 19, wherein the system is
housed in a housing no more than two inches in height.